IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2009 002564

FINDING INTO DEATH WITH INQUEST

(Amended pursuant to s76 (a) of the Coroners Act 2008 on 17 December 2013)

Form 37 Rule 60(1)
Section 67 of the ***Coroners Act 2008***

Inquest into the Death of: ANDREW GILMORE

Delivered On:	27 November 2013
Delivered At:	Coroners Court of Victoria Level 11, 222 Exhibition Street Melbourne
Hearing Dates:	14-18 August 2013
Findings of:	CORONER K. M. W. PARKINSON
Representation:	Ms Michelle Britbart of Counsel for Alfred Health
PCSU Assisting:	Leading Senior Constable Kelly Ramsay, Victoria Police

I, KIM M. W. PARKINSON, Coroner having investigated the death of ANDREW GILMORE

AND having held an inquest in relation to this death on 14, 15, 16, 17, 18 August 2013

at MELBOURNE

find that the identity of the deceased was ANDREW GILMORE

born on 13 September 1991

and the death occurred on 22 May 2009

at Werribee Mercy Hospital

from: INTRA-ABDOMINAL HAEMORRHAGE COMPLICATING PARTIAL PANCREATECTOMY FOR TRAUMATIC PANCREATIC RUPTURE

in the following circumstances:

1. An inquest was held into the death of Andrew Gilmore on 14 to 18 August 2013.

2. The Coronial Brief included documents and statements of witnesses who have been called by the Coroner to expand upon their statements. It also included statements from persons who have not been called but whose statements form part of the evidence before me.

3. The brief also includes a report obtained by the Coroner from an expert in the management of pancreatic injury, Associate Professor Neil Collier, hepato-biliary and pancreatic surgeon who is in active clinical practice. Associate Professor Collier is former head of the hepato-biliary and upper GI Service at the Royal Melbourne Hospital.

4. Witnesses who were called to give oral evidence were: Mrs Irene Gilmore, Andrew's mother; Doctor Katherine Cummins, then Surgical Intern; Registered Nurse Div.1 Ms Margaret Candon and Registered Nurse Div.1 Ms Kylie Harkin, each of the Alfred Hospital in the Home program; Doctor Lindy Washington, then General Surgery Night Registrar; Mr Martin Keogh, Clinical Services Director, Alfred Hospital (including responsibility for the Hospital in the Home program since 2011); Associate Professor William Johnson, Program Director Peri-operative and Ambulatory Services Alfred Hospital and Associate Professor Neil A. Collier.

5. Whilst I do not refer to all of the evidence, I have considered all of this material in reaching my finding in this matter.

BACKGROUND AND CIRCUMSTANCES

6. Andrew Gilmore was born on 13 September 1991. He was 17 years old at the time of his death. Andrew is survived by his parents and brothers. Andrew was a fit, happy and healthy boy with no significant medical history.

7. On 9 May 2009 Andrew was accidently injured in a football match where he received a knee to the abdomen. Andrew was admitted that day to the Werribee Mercy Hospital with severe abdominal pain and exhibiting severe abdominal tenderness. Initial investigations, including an abdominal CT scan did not identify features of pancreatic injury, however a second CT scan on 11 May, 2009 revealed features of a pancreatic transection.

8. Andrew was transferred to the Alfred Hospital on 11 May 2009 where transection of the pancreas was identified and laprascopic distal pancreatectomy was performed. Two drainage tubes were inserted. The operating surgeon, Mr Marty Smith reported:

> "At laparotomy the findings were transacted pancreas with extensive fat necrosis in the lesser omentum to his mesocolon with a small to moderate amount of blood stained free fluid and a haematoma within the transverse mesocolon. Mr Gilmore underwent distal pancreatectomy with the distal half of the pancreas being excised using the Harmonic scalpel. The splenic vein was preserved but the splenic artery which had been subject to significant perivascular inflammation was sacrificed with the ends of this vessel being secured with Prolene transfiction sutures as well as titanium Weck clips to ensure haemostasis. I have noted that the spleen remained viable despite this loss of arterial blood supply.
>
> Further haemostasis to the pancreatic bed was obtained using a combination of diathermy, Weck clips and Tisseel (topical fibrin glue). The proximal stump of Mr Gilmore's pancreas was debrided. The pancreatic duct was identified and oversewn using Prolene and the entire stump was then oversewn using an absorbent monofilament suture. Drains were placed, the abdomen closed and the patient returned to the recovery room. Mr Gilmore's post operative care was centred on monitoring his perioperative ileus, suppressing his pancreatic function with subcutaneous Octreotide and watching for pancreatic fistula."

9. Mr Smith reported that Andrew's post-operative course was uncomplicated and progressed without incident. He ceased using intravenous analgesia, morphine and ketamine, on 15 May 2009 and was administered oral analgesia, Oxycontin, paracetamol, tramadol and ibuprofen, from that time. Mr Smith reports that:

> "On the 16/5/09 Mr Gilmore's drain tube fluid was sent for biochemical analysis for Amylase content. The right drain tube contained trivial amounts of Amylase (47) whereas the left drain tube contained 420 units. A further specimen from the left drain tube later on the same day revealed an Amylase of 7,500 indicating the presence of a pancreatic fistula. On this basis Mr Gilmore's right drain tube was removed and his left drain tube was taken off suction.
>
> At this stage it was noted that Mr Gilmore was mobilising comfortably around the ward requiring oral analgesia only (Oxycontin, paracetamol, tramadol and ibuprofen) and was tolerating a normal diet. Given these positive findings it was planned that Mr Gilmore would be discharged home with a drain tube in situ, as the hospital was providing little care for him at this stage. He was referred to Hospital in the Home on the 18/5/09 for ongoing management of his drain tube. We planned to review him in the Outpatient department for a repeat drain tube Amylase and anticipating that we may be able to remove the drain tube at that time."

10. Mr Smith saw Andrew on 18 May 2009 prior to his discharge. He had no further contact with the patient after that time and was not contacted in the period when Andrew began experiencing pain.

11. Owing to the pancreatic enzyme level in the fluid, removal of the drain tubes was inappropriate, however in view of Andrew's overall progress he was regarded as suitable for discharge from the hospital to the Hospital in the Home ('HITH') program.

12. Andrew was discharged from hospital on 19 May 2009. At this time he appeared stable, with his pain well controlled with oral analgesia. There was no evidence of infection, with normal temperature and blood test results. Andrew made no complaint of pain and was keen to be discharged from hospital.

13. Andrew was discharged to the HITH program. The evidence is that the principal reason for discharge to this program was for management of his drainage tube, until such time as he was post discharge reviewed and the tube was appropriately removed.

14. The HITH program operates as if the patient is still an inpatient and for all purposes other than location at home, the patient is regarded as being an inpatient of the hospital. It is expected that there will be continued liaison with the treating inpatient unit, by the HITH clinicians.

15. During the coronial investigation, Andrew's mother expressed concern that at the time Andrew was discharged he was not sustaining a normal diet and that he had not had a bowel movement, despite hospital notes where Andrew was reported to have advised to the contrary. Andrew had been consuming food including from the cafeteria and staff were aware of this and in this context and absent any other complicating factors, the clinical assessment that he was able to be discharged was made.

16. Andrew was assessed by the HITH clinicians for suitability for the program, however it does not appear that an adult family member was present at the assessment and there was no discussion with either parent as to the appropriateness of discharge from hospital or the operation of HITH. All discussions occurred with Andrew, including signing of discharge documentation. The HITH consent form is not available.

17. On 20 May 2009 Andrew was visited at home by a HITH nurse clinician. The nurse noted that he was stable and that there were no significant clinical issues. His pain was reported to be well controlled and there was minimal drainage from the drainage tube. The nurse removed every second abdominal staple as directed and her observations recorded no significant issues. There was no indication of any complications at that time.

18. On the evening of 20 May 2009, after the removal of the abdominal staples, Andrew developed bleeding and discharge at the site of the wound and his mother contacted the hospital ward where Andrew had been an inpatient. She used the card provided to her by the ward, which indicated that if there were any concerns to ring that number.

19. She was advised by the call taker on the ward, to take Andrew to his General Practitioner, which she did. The GP dressed the wound and assessed a rash which had formed around the wound site.

20. On 21 May 2009 Andrew experienced significant pain and vomiting when he awoke. At 11.00 a.m. HITH Nurse Candon attended for the scheduled daily appointment. The nursing notes recorded that Andrew reported that he was in a lot of pain and was vomiting. He had

slept in until approximately 9.00 a.m. and when he woke had taken his pain medication and vomited. Nurse Candon noted that he had taken his pain medication on an empty stomach.

21. Nurse Candon contacted the Alfred Hospital and spoke to Dr Katherine Cummins, then surgical intern who was aware of the patient. Nurse Candon was instructed to administer further analgesia. She stated:

> "The instruction from Dr Cummins was for the patient to take Oxycontin 5mg slow release and Tramadol 100mg now and if the pain did not settle to come back into the hospital. The patient took the medications whilst I was present." [1]

22. There was some fluid leakage from the site where every second abdominal staple had been removed the day before. As instructed by Dr Cummins, Nurse Candon left the remaining clips in situ until review at hospital. Andrew's observations were stable and recorded as Heart rate 75, blood pressure 148/80, respiration 20 and oxygen saturation 100%. She advised Andrew of Dr Cummins' advice that he was to come back to the Alfred for a review if the pain and nausea did not settle.

23. Dr Cummins was the surgical intern on 21 May 2009 who was contacted by the HITH clinician. Dr Cummins stated that she had seen Andrew on the ward when she had accompanied the surgical registrar on his surgical rounds. She recalled being called about an episode of vomiting on 21 May 2009 and stated:

> "I cannot remember the name of the person I spoke to from Alfred Hospital in the Home but I remember there being a concern about Mr Gilmore having an episode of vomiting and some increased pain perhaps because he had vomited up his pain medication. I remember expressing concern that his pain was a new issue as his pain had been improving while he was an inpatient. I advised that if the pain and vomiting continued that he should present to hospital for review. It was then explained to me that as he was a Hospital in the Home patient he is technically an inpatient of The Alfred and should come to The Alfred for review. I remember reiterating that if the pain or nausea were persistent or worsening that he should present for review at any hospital. I cannot recall any other concerning features from the phone call that would prompt me towards a more urgent course of action. I also note in the Alfred at Home notes that there was no further vomiting on 21/5/2009 as per Mr Gilmore's father Mr Jason Gilmore." [2]

---

[1] Exhibit 3 – Statement of Nurse Margaret Candon dated 8 August 2011.

[2] Exhibit 2 – Statement of Dr Katherine Cummins dated 6 October 2011.

24. At 1.45 p.m. Nurse Candon telephoned to check on Andrew's progress and spoke to Mr Gilmore who reported that Andrew's pain had improved and there was no further nausea or vomiting.

25. It was concluded that the nausea was as a result of having taken analgesia without food and that the pain was as a result of vomiting his analgesia and not keeping 'on top of the pain'.

26. The HITH clinicians discussed the matter at their afternoon meeting, however as it appeared the issue had resolved, no further follow up was required.

27. There were no other indications that day that anything was awry. Mrs Gilmore reports that evening Andrew was 'not his normal self' and 'was quieter than usual', however he ate dinner with the family and did not complain of pain or nausea.

28. On 22 May 2009 Andrew again awoke in significant pain. Mrs Gilmore stated that she woke at 5.15 a.m. to get ready for work. As she was doing so, Andrew called out to her in some distress. She went downstairs to locate Andrew 'in a lot of pain and vomiting'.

29. Mrs Gilmore's evidence, which I accept, was that at approximately 5.50 a.m. on the morning of 22 May 2009 she rang the ward at the Alfred Hospital from home before she left for work. She stated that she advised the hospital that Andrew was in significant pain and that he was cold and clammy. Her evidence is she was advised to wait and see if the medication started to work and that if the medication did not settle him, to call again. She stated:

> "I came downstairs to find Andrew in a lot of pain and vomiting. I had asked him what he had taken so I could work out what medication he could have but he had taken all his tablets. I then called The Alfred and I can't recall the person I spoke to but I know it was the ward I was speaking to. I had told them what was going on and I was concerned that Andrew was cold but sweaty. I was advised that I should wait and see if the medication started to work, if not then call back. I found this to be odd. I explained to the lady on the phone that this had happened the previous day also and I thought he needed to return to the hospital. She again said to give it fifteen minutes to see if the medication kicks in.
>
> Andrew then told me at 6.10am that his pain had settled now and that it was 4/10. He had stopped vomiting and he said to me to go to work and that he would be okay now. I then left for work.
>
> I then called Jason (Andrew's father) back at 6.30am and he said he had called the hospital back as Andrew wasn't getting any better. His pain had

> come back but he wasn't vomiting anymore. He told me that they were going to call someone that was involved with Andrew and see what to do, but if he was concerned, he was to take him to the emergency department. This would be the call that Nurse Kylie Harkin has noted as taking at 6.22am."

30. At the time she left home for work that morning at approximately 6.10 a.m., Andrew appeared to have settled.

31. There is no note of Mrs Gilmore's telephone call in the hospital records produced to the Coroner. Nor was there record of the earlier call to the ward regarding the wound leakage and recommended GP attendance. However, I accept that each call was made and that the advice given to Mrs Gilmore was as she described.

32. Andrew's condition further deteriorated and at approximately 6.22 a.m. his father became concerned as Andrew was again experiencing severe pain and vomiting. He called the HITH and spoke to Nurse Harkin.

33. At approximately 6.28 a.m., the On Call surgical registrar, Dr Lindy Washington was contacted and informed that Andrew was in pain and vomiting and that there had been a similar event the previous day which had been managed by the UGIS team and resolved with analgesia.

34. Nurse Harkin stated that Dr Washington advised that the patient remain at home and that his symptoms were possibly due to taking his medication on waking and with no food. Dr Washington advised that she would hand over to the parent unit Registrar and request that unit to contact the patient at home at 7.30 a.m.[3]

35. Dr Washington stated:

> "I asked further questions, and elicited the following further information: The patient had 6/10 abdominal pain this morning (for which he was taking oxycontin), and was otherwise well, specifically there was no haematemasis. The patient has had this happen before – he took his oxycontin for pain yesterday (21/5/09) at 06:00, and vomited it up; The Alfred UGIS team were consulted regarding this, and no management was instigated. The patient was currently in Werribee, staying at his

[3] Exhibit 4 - Statement of Nurse Kylie Harkin dated 14 July 2011.

brother's house. His brother was currently with him. Kylie felt that the patient's vomiting was due to taking the oxycontin on an empty stomach."[4]

36. Dr Washington stated that she was not made aware that Andrew was clammy or cold or sweaty and nor was she aware that there had been a telephone call by mother to the hospital earlier in the morning.

37. At 6.37 a.m. a further telephone call was made by Nurse Harkin to Mr Gilmore in which she conveyed the advice of Dr Washington and informed Mr Gilmore that advice was being sought from the treating UGIS team who were due to arrive at 7.30 a.m. and that he would be contacted then.

38. Dr Washington's evidence is that she spoke to the UGIS registrar Dr Moore at 7.40 a.m. and that Dr Moore was familiar with the patient. Dr Washington stated that she asked Dr Moore to make contact immediately with the patient with her advice.

39. Andrew's condition further deteriorated and at approximately 7.53 a.m., Mr Gilmore had not heard from the hospital and he called the HITH again. He again spoke to Nurse Harkin and advised that Andrew was having difficulty breathing and that he wanted to go to hospital. Nurse Harkin called for an urgent ambulance.

40. Whilst awaiting the ambulance, Andrew suffered a collapse in his father's arms.

41. Ambulance Victoria records the call being received and dispatched at 7.55 a.m. and the arrival of the first ambulance at 8.17 a.m. MICA paramedics arrived at 8.38 a.m. and continued aggressive resuscitation measures at home and on route to the Werribee Mercy Hospital. Andrew arrived at the emergency department at 9.37 a.m. and resuscitation efforts continued. Andrew was unable to be resuscitated and he died at 9.59 a.m. on 22 May 2009.

42. An autopsy was undertaken by Dr Mathew Lynch, Senior Forensic Pathologist of the Victorian Institute of Forensic Medicine. He commented:

> "At autopsy there was evidence of 1400 mls of intra-abdominal blood and haemorrhage was noted in the region of the pancreatic bed at the site of partial pacreatectomy. No specific bleeding site was identified.

---

[4] Exhibit 5 - Statement of Dr Lindy Washington.

Surgical ties were noted on blood vessels in the vicinity and in my view it is likely that bleeding has occurred as a result of lysis of thrombus which has resulted in appearances of adequate haemostasis at the time of surgery or alternatively a surgical tie on a vessel may have become dislodged and was not identified at autopsy. There was no evidence of infection at the surgical site".

43. The pathologist reported that the cause of death was 1(a) Intra-Abdominal Haemorrhage Complicating Partial Pancreatectomy For Traumatic Pancreatic Rupture.

ISSUES RELATING TO INITIAL DIAGNOSIS DELAY

44. Andrew's family were concerned as to the initial delay in diagnosis of the pancreatic rupture at the Werribee Mercy Hospital and the impact this may have had on his treatment or recovery. There is no evidence to suggest that any delay in diagnosis was unreasonable, or that it compromised Andrew's prognosis or recovery.

45. Repeat CT scans were undertaken in response to the clinical indications and as soon as the diagnosis was made, Andrew was transferred to the Alfred Hospital and operated on. The surgical intervention appeared to proceed well and did not appear to have been compromised by the period between the first scan and the second scan, which was diagnostic.

TIMING OF INITIAL DISCHARGE TO HOSPITAL IN THE HOME

46. The family was also concerned as to the timing of the discharge to home, the oversight by the HITH program and the response to the deterioration in his condition in the period 21 May to 22 May 2009.

47. Associate Professor Collier was retained by the Coroner to provide an expert opinion in relation to the medical care and management and in particular the timing of Andrew's discharge from inpatient care to the HITH program and subsequent management by way of HITH.

48. Associate Professor Collier stated that there was nothing to indicate that at the time of discharge to HITH that there was a large volume pancreatic leakage. He observed that there were modest amounts of fluid draining to the two drain tubes and biochemical analysis revealed some pancreatic juice, but not at high levels.

49. As to discharge timing he further commented that whilst there are significant pressures on hospital doctors to discharge early in the post-operative period due to limited bed space, the time of Andrew's discharge did not appear to be inappropriate.

50. His opinion was that whilst it was possible that a more prolonged period of hospitalisation may have led to an earlier diagnosis of the bleeding complication and possible early intervention with a chance of survival, there was no clinical indication for retaining Andrew in hospital.

51. The evidence of Associate Professor Johnson was that the post-operative stay in Andrew's case was consistent with the usual period for such surgery and that there were no indications for Andrew remaining in hospital at that time.

52. Whilst the Director of Clinical Services Mr Keogh, identified that one of the advantages of HITH was the ability to free up hospital beds for more complex patients, there is no evidence to suggest that the decision to discharge Andrew from inpatient hospital care to HITH was influenced by any extraneous factor, including bed availability.

53. Associate Professor Collier commented that the timing of the discharge was appropriate as:

> "He was in a stable state with minimal abdominal drainage and the period in which major complications could be anticipated had more or less passed. As stated above, secondary haemorrhage after this period is unusual and in the rare circumstances where it occurs, the post operative obliteration of the tissues around any at risk artery would generally lead to a limitation of the potential blood loss allowing transfer to hospital for appropriate management. Clearly this did not happen in this case as Andrew's haemorrhage was massive and lead to collapse and death."[5]

54. The opinion of Associate Professor Collier, which I accept, is that Andrew's inpatient hospital management and discharge timing was reasonable and appropriate.

MANAGEMENT OF PATIENT AFTER ONSET OF POST SURGICAL PAIN AT DAY 9 AND AGAIN AT DAY 10 FOR NO APPARENT REASON

55. Associate Professor Collier's evidence was that recurrent pain ten days after surgery was a matter which would have caused a surgeon to be concerned and warranted comprehensive review. This was also the evidence of Associate Professor Johnson.

---

[5] Statement of Associate Professor Neil A. Collier dated 15 February 2012.

56. However, both agreed that it was reasonable at the first instance of pain on 21 May 2009, for the clinicians to be reassured by the resolution of symptoms after further analgesia had been administered. This was because pain is not an unusual occurrence in post surgical patients after they have been discharged from hospital and there appeared to have been resolution with further analgesia.

57. On 21 May 2009 it would have required a clinician of extraordinary diligence or of great experience to identify that the resolution by analgesia of the pain and nausea was serendipitous and that there may have been an underlying issue of developing urgency.

THE RESPONSE ON DAY TWO OF PAIN - 22 MAY 2009

58. Both experts agreed however that the recurrence of significant pain and nausea, reported on two occasions in a post surgical HITH patient, warranted further investigation and clinical review at the treating hospital. Their evidence was that this would have been the preferable course early in the morning of 22 May 2009.

59. Associate Professor Johnson's evidence was that a report that the patient was in pain, clammy and cold would have been of concern to him as a surgeon as it suggested shock, regardless of what had happened the day before.

60. His evidence was that the critical time for intervention with some prospect of recovery was at about 6.30 a.m. In his opinion the consultant handling the case should have been contacted at that time, as they were best suited to make an assessment of possible complications and in the full knowledge of the patient and their particular characteristics.

61. Associate Professor Johnson stated that he had:

> "No doubt that had they contacted the consultant at 6.15am on the morning and the events explained to him, he would have suggested a move to hospital. Weakness recognised, was that the registrar was not familiar with the case."[6]

[6] Transcript dated 15 August 2013, page 167.16.

62. His evidence was that a graphic observation chart in hospital would have shown that something was radically wrong.[7] He also stated:

> "As the on-call registrar did not have access to that information they made a subjective call to wait, however it was too late in the context of what was happening to Andrew. Not too late in the context of what thought was going on. But too late in the context of what was actually occurring."[8]

63. Associate Professor Johnson agreed with the proposition that in view of the limitations upon clinical assessment over the telephone and in the absence of the availability of ongoing vital observations, careful interrogation of the symptoms being reported was required.

64. He agreed that the desirable approach would be assessment by someone familiar with the patient and who had experience with pancreatic surgery to be able to identify possible complications, however unlikely such complication may be.

65. The evidence is also that the clinical assessment being undertaken by Dr Washington was limited by the absence of important information which was not available to her, including that Andrew was 'cold and sweaty' on his mother's report and 'hot and sweaty' on his father's report.

66. Dr Washington and all of the clinicians directly involved at this time were unaware of mother's telephone call earlier in the morning. This was a matter which may have resulted in a different response plan, had it been conveyed.[9]

67. During neither call on 20 May or 22 May, was there referral or direction to Mrs Gilmore to contact or liaise with the HITH program clinicians and the information she supplied was apparently not conveyed to the HITH clinicians or to the treating team by the call taker on the ward at the Alfred Hospital.

68. The evidence of Dr Washington was that she was reassured by the resolution of the pain with analgesia the previous day and by the fact that the upper gastrointestinal treating team the previous day had not investigated further or arranged for further investigation. She was

---

[7] Transcript dated 15 August 2013, page 164.28 to 165.1.

[8] Transcript dated 15 August 2013, page 165.13.

[9] Transcript dated 15 August 2013, page 123.23.

partly informed in her response to the report of further pain and nausea this day, by the nature of the response the previous day.

69. Dr Washington believed there had been a review by the upper gastrointestinal surgical team. It appears that the only medical review was the telephone advice provided by the surgical intern, Dr Cummins on 21 May 2009.

70. The surgical consultant and/or the operating gastrointestinal surgeon, Dr Smith was not advised of the events and there does not appear to be any record of the inpatient unit UGIS surgical team discussing or considering the patient's progress at home, despite the patient for all purposes remaining on the inpatient list[10] as described by Mr Keogh.

WHAT DID THE PAIN MEAN?

71. Andrew was a young man who did not readily complain of pain, had been eager to leave hospital and had reported upon leaving hospital that his pain was minimal. In this context, the development of new pain was a significant matter, which warranted further investigation.

72. Perhaps it is also not surprising that in a young person with only a recent history of use of pain medication, there was intermittent resolution of even severe pain, when strong (for him) pain relief was administered.

73. His mother also made the pertinent observation in her evidence, that to attribute the nausea to medication on an empty stomach, when Andrew had not altered his medication regime since his discharge from hospital and had been tolerating the medication previously, did not make sense.

HOSPITAL IN THE HOME PROGRAM AND WHAT IT MEANS FOR THE PATIENT, PARENTS OR CARERS

74. Hospital in the Home, despite being described as 'in hospital' by the program, is not the same as being an inpatient and does not have associated with it the same level of attendant care and observations.

---

[10] Transcript dated 15 August 2013, page 144.2.

75. In this context therefore there would appear to be a reasonable basis for an earlier and lower threshold of escalation to a consultant in the context of new pain in a post surgical patient. It would seem that the scheme is flawed if it does not provide a mechanism which substitutes for the level of monitoring that would have been applied in hospital, particularly once new or recurring symptoms which may be indicative of complications are advised.

76. It is apparent from the events of this case that a significant level of responsibility rests on parents or relatives who are caring for a person in HITH.

77. As there appears to be some reliance upon their capacity to be able to identify significant matters and notify of clinical decline, it would appear appropriate that they be provided clear advice and that they, the parents, indicate their acceptance and understanding of their role before any discharge to the program.

EVIDENCE AS TO A LACK OF CLARITY FOR THE FAMILY REGARDING THE PROCESS OF RAISING CONCERNS OR WHO TO CONTACT IN THE CASE OF CONCERNS

78. Mrs Gilmore contacted the ward directly by telephone on 20 May and 22 May 2009 in relation to Andrew's condition. On neither of these occasions was she advised that she ought contact the HITH program. She had the impression that she had reported the developments to the appropriate location and was not disabused of this belief.

79. Whilst the evidence of Nurse Candon is that on 21 May 2009, she advised Mr Gilmore that he should not contact the local GP, and that contact should only be made through HITH, that information does not appear to have also been reinforced by the ward clinician to Mrs Gilmore in either of these calls.

80. Further, the HITH nursing notes record that Mr Gilmore was advised that they should not attend their own GP and that the 'hospital' was responsible for care. This description however does not clarify or draw any distinction between the 'hospital' and the HITH program, which it appears is being contended.

81. There was clearly a lack of clarity within the household as to whom it was appropriate to convey concerns. The response of the ward clinicians is also evidence of lack of clarity at

the hospital itself, as to who was responsible for ongoing supervision of the patient and the role of the HITH. The process was fraught with mixed messages and uncertainty.

82. It is unclear on the evidence what documentation was provided to Andrew or his father on discharge from the hospital. Whilst it appears that there was a brochure relating to HITH available at the house on 21 May 2009, Nurse Candon was unable to state whether she had provided it that day or whether it was already at the home when she arrived. Mrs Gilmore states that the only document she sighted was the discharge form and that was where she obtained the ward phone number. The only document specifically attributable to Andrew available was a discharge document signed by Andrew alone and not by his parent or guardian, despite there being a designated location for parent or guardian signature and acknowledgment. There is no record that Mr Gilmore was present when the HITH consultation took place with Andrew, although he was present at his discharge.

DELEGATION OF DECISION MAKING AS TO CRITICALITY TO FAMILY MEMBERS

83. It was apparent on the evidence that there was a degree of delegation of the decision making by clinicians to parents, which occurred during the course of the telephone calls. This was evidenced by the rider added to each phone call *"however if he gets worse call back or if he gets worse take him to the emergency department"*.

84. The family member had already phoned clinicians indicating concern as to the status of a HITH patient. As discussed earlier, Mrs Gilmore's evidence was that she made two calls to the hospital ward during the period of the HITH process. The first on 21 May 2009, resulting in a GP visit at the advice of the clinician to whom she spoke on the ward and the second on 22 May 2009 when she advised Andrew was cold and clammy and in severe pain. She advised that she thought he needed to go to hospital. She was told to wait, but also advised that if he got worse to call again. Similar advice was provided to Mr Gilmore in the course of the telephone calls he made on 22 May 2009.

85. Delegation of responsibility to a lay person to make an assessment of a worsening condition in the complex setting of a post surgical patient, who had been complaining of recurrent severe pain, is not ideal management.

86. Once again, this begs the question as to how a lay person is to make the assessment of 'getting worse', particularly in a context where the previous complaint of pain had been

attributed to difficulties with medication? It is not unreasonable in such circumstances, that the parent would not immediately move to an emergency department.

87. It is apparent that having been reminded that Andrew's care was the responsibility of the HITH, his father waited for someone to respond to the concerns.

88. It is unlikely that on a ward, the clinical decision making and response would be made on the basis of assessments by the parents as to the gravity of the patient's status. In this context this approach does not distinguish the HITH from a visiting nursing service. It is not in this respect comparable to, or as effective in monitoring, as would be the case with inpatient care.

THE RELATIONSHIP BETWEEN THE INCIDENTS OF PAIN ON 21 AND 22 MAY 2009

89. There is a divergence of opinion between Associate Professor Collier and Associate Professor Johnson as to whether the pain which was reported on 21 May 2009 and responded to with analgesia, was an isolated event or whether it was an indication of the onset of the bleeding.

90. Associate Professor Johnson stated that in his opinion the two events were unlikely to have been related, although he could not exclude there being a relationship. In his opinion the haemorrhage on 22 May 2009 was likely to have been a single catastrophic event.

91. Associate Professor Collier stated that in his opinion the two events were likely to have been related and that the pain onset, even though it responded to analgesia on 21 May 2009, was a precursor of a serious developing situation.

92. I accept Associate Professor Collier's evidence as to this matter and it is consistent with his opinion as to the likely cause of the bleeding as discussed below. Further it is noteworthy that Andrew did not describe the nature of the pain differently on either day and the coincidence of the pain events and the ultimately catastrophic bleeding, absent any previous report of significant post recovery pain (including being recorded at discharge as experiencing 'no pain').

93. I am satisfied that having regard to the level of pain complained on each occasion on 21 and 22 May 2009 and the timing of the pain events in relation to the final collapse, that it is likely that the two pain events were related.

WHAT WAS THE CAUSE OF THE BLEEDING WHICH WAS DESCRIBED AS A RARE COMPLICATION

94. Associate Professor Collier stated that the complication which caused Andrew's death was a rare but known complication in pancreatic surgery patients. It was particularly rare in the context of a patient 10 days out from surgery.

95. The forensic pathologist was unable to identify with any precision the source of the bleeding. He reported:

> "There is evidence of recent distal pancreatectomy. The pancreatic head is identified and it shows patchy intraparenchymal haemorrhage," which is of post-operative normality. "There is blood clot present within the surgical bed adjacent to the site of distal pancreatectomy. The splenic artery was identified and there was a tie noted although a probe could be passed along the vessel into the surgical bed adjacent to this tie. Exploration of the splenic vein revealed a surgical clip."

96. Associate Professor Collier reported that in his view the likely cause of the bleed was secondary haemorrhage in circumstances of breakdown of the splenic artery due to erosion by persistent low grade leakage of pancreatic juice. He stated:

> "The cause of his death from the post mortem report is completely consistent with a secondary haemorrhage, most likely from the splenic artery. The splenic artery is ligated as part of the operative procedure in distal pancreatectomy. Secondary haemorrhage can occur if the sealed artery subsequently breaks down either due to infection or possibly from erosion by leakage of pancreatic juice. This is a well described complication in all types of pancreatic surgery but is more frequently seen after resection of the head of the pancreas than with distal pancreatectomy. Such a development will usually occur in the first seven days after surgery. Secondary haemorrhage ten days after surgery is unusual but it is possible that the low grade persistent leakage of small volumes of pancreatic juice from the transected pancreas lead to the late breakdown of the splenic artery and the subsequent haemorrhage. Bleeding from the splenic artery can be catastrophic as was found in this particular case.[11]

[11] Transcript 15 August 2013, page 203.24.

97. He commented that bleeding after surgery was not uncommon however usually occurs within the first seven days after surgery and after that time most vessels have thrombosed, clotted off and the space around the pancreas is obliterated. He stated that even if there is a late bleed, it usually is confined and can be treated.[12]

98. His evidence was:

> "And the problem with pancreatic surgery is this leakage of pancreatic juice. Now, the pancreatic juice is very erosive. It can eat away at really normal structures. It can certainly eat away at a suture tying off a blood vessel. And that presumably is what has happened in this case"[13].

99. His opinion was that the pathology results received after Andrew's death, were consistent with his view that low grade leakage of pancreatic juice may have led to the breakdown of the splenic artery which in turn resulted in the bleed.

100. He expanded in his evidence upon the likelihood that the pain experienced by Andrew on 21 May 2009 was to be described as a 'sentinel bleed', a warning sign that something is about to erupt. He stated:

> "Because I think if you look at the case carefully, the day before Andrew had had severe pain. And the nurse saw him, which was fine. The problem is we have a Hospital in the Home nurse who may never have seen a pancreatic operation before. These are not common operations. Her ability to assess the situation there can be really a very big ask for someone in that place. But almost certainly I would say that the day before Andrew had had what we call a sentinel bleed. A sentinel bleed is often the warning sign that something is about to erupt. And the bleed can be a small bleed which is confined, the vessel clots off, and then the secondary haemorrhage is the one that's fatal, the one that occurs the next day or two days later. And this is pretty classical for a pancreatic bleed after surgery like this."[14]

---

[12] Transcript 15 August 2013, page 204.10.

[13] Transcript 15 August 2013, page 204.10.

[14] Transcript 15 August 2013, page 205.8.

101. Associate Professor Johnson discussed the pathologist's finding and the surgical process and he noted that whilst the pathologist had reported that no obvious cause for the haemorrhage was identified, that a probe could be passed down the splenic artery. He described this as unusual because the splenic artery, having been ligated, would be expected to thrombose. He stated:

> "Now, it may be that the ligature wasn't tight enough and a bit of blood was getting through from the aorta, though I think that's unlikely. But, as I saw it, the bleeding had occurred from that access point from the splenic artery into the pancreatic bed. Now, I don't know why that happened because the pressure in the splenic artery should not have been significant because there was a tie stopping the aortic pressure going through into the bed. But the event that occurred was that suddenly something gave way. Now, we questioned, in looking at all this, could this have been something which happened the day before or it was a prodrome. We think that's extremely unlikely because Andrew had been doing very well from the point of view of his drain tube. The enzymes, the volume had been going down. In fact, on the day before there was two mls only, and that's almost – you would pull the drain tube out at that. And there was never any suggestion of any blood in the drain tube or anything else changing from the drain tube fluid. So we don't think that that happened. But we do think that on this terrible day that Andrew had a sudden massive haemorrhage occurring from the splenic artery into the splenic bed. And I mean, I guess, you know, you look at 1400 mls of blood and we know that there's a bit more than that in the circulation but 1400 mls of blood as an acute loss is something from which even if you're in hospital it's going to be a close call."[15]

102. Associate Professor Johnson was of the opinion that the raised amylase level identified in samples taken on 20 May 2009, but not reported until after Andrew's death, was unlikely to have been indicative of a leak of pancreatic juice causing bleeding.

103. His evidence was that the amylase level of 20,000 units in two mls of pancreatic juice was not a concerning level and that in his view levels of that measurement did not cause him to conclude that it was causative of the bleeding. He stated:

> "Well, people have raised this with me about the – there was two mls, I think it was, or a small volume of pancreatic juice. And the amylase content was 20,000 units. And that has caused a bit of an alarm, but in actual fact the amylase level in pure pancreatic juice is between 80,000 and 100,000 units. So 20,000 units is dilute pancreatic fluid which really reflects the fact that you're now getting down to just draining – well, you're draining more of the pancreatic fluid, if you like, and less of the serum that's around. Because the

[15] Transcript 15 August 2013, page 170.10.

> reason that you get lower levels of the amylase in the pancreatic drainage is because there is other fluid being mixed with it that's diluting the pancreatic enzymes".

104. His evidence was that the level of amylase in the pathology result was not in his opinion significant in the cause of the bleed.

105. Associate Professor Collier did not disagree that the levels in drainage fluid was not the significant matter. His evidence was that the level is merely confirmation that there was a pancreatic leak and that the clinical issue was that the pancreatic leak may not have drained adequately to the surface. He stated:

> "The concern is that the pancreatic leak may not be drained adequately to the surface. What you want is all that juice out of the abdominal space so that it can't do damage. If it's all drained to the surface, that's fine, but if it's accumulating internally, that's the problem, not the actual raw level of the amylase.--It's possible that it was a build-up of fluid the day before, rather than bleeding the day before. But I suspect more likely he had this relatively minor bleed followed by the more catastrophic bleed the next day".[16]

106. As to the level of amylase returned in pathology results taken the day before Andrew died, he stated that it was indicative of an ongoing leak, particularly as at discharge the level was 7000 and had reached 22,000 at the time of the final ante-mortem pathology analysis.

107. Associate Professor Collier is an expert witness with particular expertise and experience in pancreatic surgery and I accept his evidence as to the likely cause of the bleeding and its development.

CONTRIBUTING FACTORS AND WHETHER DEATH WAS PREVENTABLE

108. There were a number of aspects of the Hospital and HITH procedures which resulted in less than desirable response to the deterioration in Andrew's condition. These included:

- That the situation was not escalated to the consultant which it ideally ought to have been at latest on 22 May 2009 at the time of the first report by Andrew's mother at 5.50 a.m.

- The On Call Registrar was not a clinician who was familiar with Andrew and therefore able to make a comprehensive assessment about him as a patient.

---

[16] Transcript 15 August 2013, pages 206 to 207.

- There was a lack of capacity in the HITH program to undertake regular vital observations which may have identified the problem earlier and allowed for earlier intervention.

- There was a lack of clarity in who to contact as far as the family were concerned, which had not been clarified and was not responded to by Alfred Hospital clinicians when Mrs Gilmore again called the ward on 22 May 2009.

- The information conveyed by Mrs Gilmore at 5.50 a.m. to the Alfred Hospital clinician was not conveyed to the treatment team or HITH or recorded anywhere.

- There was a failure to interrogate the parents carefully as to what was happening with Andrew.

COMMUNICATION BETWEEN HITH AND FAMILY AND BETWEEN HITH CLINICIANS AND HOSPITAL CLINICIANS AS TO THE DETERIORATION

109. The evidence satisfies me that there was a break down in the communication between the HITH program and the family (in particular the parents), including miscommunication by the hospital to the family of the best way for them to communicate concerns and obtain a medical response.

110. Whilst the HITH program is intended as a continuation of hospital management in the home, the evidence establishes that a good deal of reliance is placed by the program on the family's ability to identify and to press concerns in relation to the patient's wellbeing. There was a lack of clear communication to Andrew's family as to the best manner in which to do this.

INVOLVEMENT OF THE CONSULTANT SURGEON

111. The assessment which took place on 22 May 2009 as to Andrew's status and the nature of the response required, including its urgency, suffered from the lack of involvement of the consultant surgeon.

112. The evidence is that those assessing Andrew by telephone on 22 May 2009, both HITH and the on-call medical clinicians, were not familiar with Andrew, his history, nor with all of the possible complications of pancreatic surgery, which may have been immediately contemplated by the Consultant Surgeon.

ABSENCE OF CAPACITY TO UNDERTAKE VITAL OBSERVATIONS REGULARLY PARTICULARLY IN A DETERIORATING PATIENT

113. As the nursing attendance occurred once daily, there was an absence of regular vital observations. This is to be contrasted with an inpatient hospital setting, where emergence of new pain would likely have resulted in greater level of scrutiny and observation, which in turn may have enabled earlier identification of the bleeding.

114. Associate Professor Collier and Associate Professor Johnson each acknowledged that more regular vital observation may have assisted in identifying that there was a deteriorating clinical situation and resulted in an earlier intervention.

115. Neither expert was of the opinion that the decision to discharge to HITH was of itself inappropriate. Noting that there was a significant catastrophic bleed, they considered that at best an earlier return to hospital may have provided Andrew with a chance for survival.

116. Although each commented that because the bleeding was significant, whether intervention would have occurred in time even if Andrew had been in a hospital setting, could not be stated with any certainty.

WOULD EARLIER INTERVENTION HAVE ALTERED THE OUTCOME? FINDING AS TO CAUSE OF DEATH AND CONTRIBUTING FACTORS

117. The issue for the Coroner to determine is the extent to which I am able to conclude that the matters caused or contributed to death, and whether I am able to conclude that an earlier re-admission to the Alfred Hospital on 21 May 2009 would have been likely to have prevented the death.

118. The evidence is that Andrew suffered a catastrophic bleed, and whilst it is likely that the bleeding had commenced on 21 May 2009 and increased in its seriousness over the ensuring day, the expert evidence is that in the circumstances of the apparent resolution of symptoms, it was not unreasonable that Andrew was not re-admitted to hospital on 21 May 2009.

119. It is unclear whether earlier hospitalisation or intervention on 22 May 2009 would have resulted in a different outcome for Andrew, although the evidence of the expert witnesses is that his best opportunity to survive the catastrophic event would have been transfer to hospital at 6.15 a.m. I am however unable to conclude with any certainty that Andrew's

tragic death would have been prevented had there been earlier intervention or hospitalisation that day.

120. I am unable to conclude that the bleeding would have been identified in sufficient time at the hospital for successful intervention to occur or that the bleeding would have likely been controlled.

121. The evidence is of careful and expert surgical management of the complex injury by Mr Smith. There was no evidence on autopsy of failure of any suture or clip. There is no evidence to suggest that the surgical management was anything less than appropriate.

122. The nature of the subsequent bleeding and the findings on autopsy were discussed by Associate Professor Johnson and he commented that emergency surgical intervention to stop the bleeding would have been fraught with difficulty and even had Andrew been in hospital with early resuscitation available, mortality in this circumstance is high. His evidence was:

> "Because I think all of this happened within the matter of an hour or a bit more, a little bit more, not much. And obviously we look at what would happen if Andrew was in hospital. Well, if he was in hospital we may have gotten a better picture of what was going on, we would have started resuscitation which is obviously going to buy us some time. I think there's no doubt that the first thing that would have been done was an angiogram to see if we could find a bleeding point. We would not have been able to do angioembolisation because there was a ligature on the splenic artery and I think that that would have precluded getting to the site of the bleeding which was beyond the ligature. He then would have needed urgent surgery and attempted ligation of the splenic artery which would be our hope which would occur".[17]

123. In view of the extensive nature of the haemorrhage it is not possible to conclude with the requisite level of certainty that Andrew's death would have been prevented.

124. What is apparent from the evidence is that both Mr and Mrs Gilmore took every step which was reasonably available to them on the morning of 22 May 2009 and also on 21 May 2009 and there was nothing more that either parent could reasonably have done in order to escalate their concern or engage medical assistance. The loss of their much loved son and brother is a tragedy in the true sense of the word.

---

[17] Transcript 15 August 2013, page 171 -172.1.

125. I find that Andrew Gilmore died on 22 May 2009 and that the cause of his death was Intra-abdominal haemorrhage complicating partial pancreatectomy for traumatic pancreatic rupture.

COMMENTS

Pursuant to section 67(3) of the *Coroners Act* 2008, I make the following comment(s) connected with the death in relation to public health and safety:

126. There are a number of aspects of the HITH program, as it then operated which were inadequate to respond to the evolving emergency in Andrew's case.

127. There was a lack of clarity in the roles and referral responsibilities, which played a part in the delay in identification of the seriousness of Andrew's situation and a part in delaying medical intervention. These are discussed in some detail in paragraphs 83 to 88 and paragraph 108 herein and I refer to and repeat those observations.

128. In 2011, the Hospital adopted a protocol for the management and escalation of HITH patients with deterioration in their condition. The protocol entitled: *'Work Instructions HITH Deteriorating Patient Escalation Process'*, provides guidance for escalation.

129. However, the difficulty with this escalation process is that it does not account for the circumstances faced in Andrew's case, that is unusual or unexpected complications, the symptoms of which appear to be resolved by analgesia and which appear to be of a *'less urgent nature'*, the latter being the description used in the protocol.[18]

130. The HITH escalation process still allows for the false reassurance that administration of pain relief medication may provide and depends upon a clinician who may or may not be familiar with the patient, identifying the possibility of unusual or unexpected complications, absent the usual vital observations available to inpatient services.

131. The HITH escalation process refers to and relies upon the Alfred Hospital inpatient hospital escalation of care guideline protocols which in turn rely heavily upon charted vital observations being available for guidance.

---

[18] Work Instructions HITH Deteriorating Patient Escalation Process, page 2 in Inquest Brief, page 42.

132. The protocol does not require contact with the treating or oversighting consultant unless and until the HMO does not respond. Professor Johnson stated that escalation to a consultant was his preferred approach to escalation.

133. As there is an absence of ability to monitor the patient in the home in the same way that monitoring would occur in hospital, any new, recurrent or escalating pain should be a criteria for immediate escalation to the consultant for review or alternatively immediate re-admission to hospital.

134. In order to provide the best possible chance of identification of unexpected or unusual complications, referral to a consultant should be the first step where there are concerns as to deterioration being expressed by the patient or family members in the HITH context.

135. In view of the level of reliance placed by HITH clinicians on information from family and carers the procedure for engagement in HITH should be clear and precise information should be given to them about the manner in which the program operates and its relationship to other services within the hospital.

136. It is not readily apparent from the evidence that there is a process by which the treating team formally oversights the progress of the patient in the HITH program in between out patient attendances, notwithstanding that they remain on the ward list.

RECOMMENDATIONS

Pursuant to s72(2) of the Coroners Act 2008 I make the following recommendation(s) connected with the death:

1. That the Alfred Hospital and Alfred HITH Program review the operation of the program to ensure that there is clarity amongst all clinical and administrative staff as to:

    (a) the proper contact and communication processes in the case of contact by family and carers of HITH patients; and

    (b) as to the process for conveying patient information to HITH and the treating team.

2. That the HITH escalation procedure be amended to provide that any new, recurrent or escalating pain requires immediate escalation to the treating team consultant for review or alternatively immediate arrangements for re-admission to hospital.

3. That the HITH escalation procedure be amended to provide that where concerns as to deterioration are being expressed by the patient or family members, immediate escalation to the treating team consultant for review or alternatively immediate arrangements for readmission to the hospital is required.

I direct that a copy of these findings be provided to:

The family of Andrew Gilmore;

The Interested Parties;

Associate Professor Collier;

Associate Professor Johnson; and

The Investigating Member.

Signature:

CORONER K. M. W. PARKINSON
Date: 27 November 2013